

## Abstract

In an orthogonal frequency division multiplex (OFDM) communication system, data bits are  
5 assigned to several carriers to create frequency redundancy in the transmitted waveform.

Uniformly spaced carriers occupy the frequency band of the OFDM signal. Multipath nulls  
caused by reflections of the transmitted signal can occur at periodic frequency intervals, for  
example in a coaxial cable. A non-periodic pattern of bit allocation to carriers creates frequency  
diversity that is resistant to periodic multipath nulls existing in the communication channel.

10